



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/532,364

04/20/2005

Yoshinori Nishiwaki

2002JP314D

1514

26289

7590

06/29/2006

AZ ELECTRONIC MATERIALS USA CORP.
ATTENTION: INDUSTRIAL PROPERTY DEPT.
70 MEISTER AVENUE
SOMERVILLE, NJ 08876

EXAMINER

HAMILTON, CYNTHIA

ART UNIT

PAPER NUMBER

1752

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/532,364

Applicant(s)

NISHIWAKI ET AL.

Examiner

Cynthia Hamilton

Art Unit

1752

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/20/5, 9/23/5.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/23/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The information disclosure statement filed September 23, 2005 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because applicants failed to fully identify the references by date and by kind code, e.g. A or B2. The references not so dated and clearly identified have been struck through and the information referred to therein has not been considered as to the merits. Not all references cited are present such as JP 11-95435. The citation of a foreign document but presentation of only an abstract of that document is not sufficient to meet the requirements of presenting the foreign document cited. Applicants have cited 20 foreign documents but only presented 11 documents. Many copies are missing from the papers filed. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a). The documents present are as follows:

JP 62-215947 A

JP 62-124556 A

JP 61-205933 A

JP 58-114031 A

JP 57-37349 a

JP 56-30850 B2

JP 54-23570 B2

jp 52-80022

Art Unit: 1752

JP 4-182650 a

JP 2003-207017 (A) and

GB 2172117 a.

No prior art documents were submitted with 371 papers as shown on M903 statement sent to applicants because there is no statement such were presented.

The listing of references in the Search Report is not considered to be an information disclosure statement (IDS) complying with 37 CFR 1.98. 37 CFR 1.98(a)(2) requires a legible copy of: (1) each foreign patent; (2) each publication or that portion which caused it to be listed; (3) for each cited pending U.S. application, the application specification including claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion, unless the cited pending U.S. application is stored in the Image File Wrapper (IFW) system; and (4) all other information, or that portion which caused it to be listed. In addition, each IDS must include a list of all patents, publications, applications, or other information submitted for consideration by the Office (see 37 CFR 1.98(a)(1) and (b)), and MPEP § 609.04(a), subsection I. states, "the list ... must be submitted on a separate paper." Therefore, the references cited in the Search Report have not been considered. Applicant is advised that the date of submission of any item of information or any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the IDS, including all "statement" requirements of 37 CFR 1.97(e). See MPEP § 609.05(a).

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

Art Unit: 1752

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 6 provides for the use of the composition of claim 1 “for producing a film of 5 Um or more in thickness, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 6 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

6. Claims 2-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 2-3 read as if the acrylic resin can have none of the structural units present if they are not “needed”. What is meant by “as needed” at the end of each of these claims is

Art Unit: 1752

unclear. Does this mean the styrene is optional? Does this mean the entire modification of claims 2-3 is optional? What is the criteria for determining "need"? Thus, claims 2-3 are confusing. The examiner as to interpret this language as broadly as she reasonably can reads all of the modifications of claims 203 to be optional for examination purposes.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nobuo et al (JP 11-095435 and Machine translation of same into English). With respect to instant claims 1-3, Nobuo et al disclose all four components of the instant composition but do not clearly, in English, use all four in the same composition. However, with respect to instant claims 1-3 applicants teach using a combination of aqueous alkali soluble binders inclusive of acrylate polymers and novolak polymers with photoacid generators and acid degradable components inclusive of acetals. Thus, the combination of these four components to obtain a photosensitive colored compositions having high sensitivity, improving the profile of the color filter would have been prima facie obvious. In the translation of Nobue, see particularly [0010], [0011], [0012] and [0071] to [0075].

9. Claims 1-2 and 4-6 AND 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sander et al (us4247611). Sander et al teach the instant invention of applicants' claims 1-2 and 4-6 and 8 with the exception of using a mixture of novolac resin with other alkali-soluble

Art Unit: 1752

resins as binders to the compositions. With respect to instant claims 1-2 and 4-6, Sander does equate alkali-soluble resins of copolymerized methyl methacrylate and methacrylic acid as a binders other than novolaks useful in the compositions of Sander et al. "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, ...[T]he idea of combining them flows logically from their having been individually taught in the prior art". In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). Thus, the use of two binders mixed together taught by Sander et al to have the same purpose as the novolak resin and the alkali-soluble resins of copolymerized methyl methacrylate and methacrylic acid in their compositions with photoacid generating systems and polyacetals to form the radiation sensitive copying composition of Sander et al would have been prima facie obvious combined use of two resins for the same purpose. IN Sander et al, see particularly example 3 with the electrodeposition of nickel layers with respect to instant claim 8. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 UAPQ2d 1934 (Fed. Cir. 1990). See particularly MPEP 2144.05.

10. Claims 1-2 and 4-6 AND 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buhr et al (4,311,782). Buhr et al teach the instant invention of applicants' claims 1-2 and 4-6 and 8 with the exception of using a mixture of novolac resin with other alkali-soluble resins as binders to the compositions. See particularly Example 23 and col. 6. With respect to instant claims 1-2 and 4-6 and 8, Buhr et al does equate alkali-soluble resins of copolymerized methyl methacrylate and methacrylic acid as a binders other than novolaks useful in the compositions of Buhr et al. "It is prima facie obvious to combine two compositions each of which is taught by

Art Unit: 1752

the prior art to be useful for the same purpose, ...[T]he idea of combining them flows logically from their having been individually taught in the prior art". In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). Thus, the use of two binders mixed together taught by Buhr et al to have the same purpose as the novolak resin and the alkali-soluble resins of copolymerized methyl methacrylate and methacrylic acid in their compositions with photoacid generating systems and polyacetals to form the radiation sensitive copying composition of Buhr et al would have been prima facie obvious combined use of two resins for the same purpose. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. In re Werthheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 UAPQ2d 1934 (Fed. Cir. 1990). See particularly MPEP 2144.05.

11. Claims 1-2 and 5-6 AND 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roth (4,737,426). Roth teach the instant invention of applicants' claims 1-2 and 5-6 AND 8 with the exception of using a mixture of novolac resin with other alkali-soluble resins as binders to the compositions. See particularly abstract, col. 5-6, and col. 7-8. With respect to instant claims 1-2 and 5-6 AND 8, Roth does equate alkali-soluble resins of copolymerized methyl methacrylate and methacrylic acid as a binders other than novolaks useful in the compositions of Roth. "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, ...[T]he idea of combining them flows logically from their having been individually taught in the prior art". In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). Thus, the use of two binders mixed together taught by Roth to have the same purpose as the novolak resin and the alkali-soluble resins of copolymerized esters

Art Unit: 1752

of acrylic acid or methacrylic acid with ethylenically unsaturated acids such as methacrylic acid or acrylic acid their compositions with photoacid generating systems and polyacetals to form the radiation sensitive copying composition of Roth would have been *prima facie* obvious combined use of two resins for the same purpose. In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a *prima facie* case of obviousness exists. *In re Werthheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 UAPQ2d 1934 (Fed. Cir. 1990). See particularly MPEP 2144.05.

12. Claims 1-2 and 5-6 AND 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruckert et al (4,789,619). Ruckert et al teach the instant invention of applicants' claims 1-2 and 5-6 AND 8 with the exception of using a mixture of novolac resin with other alkali-soluble resins as binders to the compositions. See particularly abstract, Summary of the Invention, col. 9-10 and Example 5 especially copper plating. With respect to instant claims 1-2 and 5-6 AND 8, Ruckert et al does equate alkali-soluble resins of copolymerized methyl methacrylate and methacrylic acid as a binders other than novolaks useful in the compositions of Ruckert et al. “It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, ...[T]he idea of combining them flows logically from their having been individually taught in the prior art”. *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). Thus, the use of two binders mixed together taught by Ruckert et al to have the same purpose as the novolac resin and the alkali-soluble resins of copolymerized esters of acrylic acid or methacrylic acid with ethylenically unsaturated acids such as methacrylic acid or acrylic acid their compositions with photoacid generating systems and polyacetals to form the radiation sensitive copying composition of Ruckert et al would have been *prima facie* obvious

Art Unit: 1752

combined use of two resins for the same purpose. In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a *prima facie* case of obviousness exists. *In re Werthheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 UAPQ2d 1934 (Fed. Cir. 1990). See particularly MPEP 2144.05.

13. Claims 7-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 7, applicants have not made clear what is included in “the gold bump forming process of the semiconductor packaging technology”. Applicants have not connected the imaging step to the plating step in any fashion is plating after or before imaging during imaging? The same problem is in claims 8-10. In claims 9-10 it is not clear what is meant by continuous plating steps. Thus, the processes of claims 7-10 are so confusing as to be indefinite. The examination of these processes is as close as the examiner can make them considering she is not clear about what applicants are claiming. Is one layer plated manytimes? Are many layers plated once? Are many article s made once but because many are made then many plating steps occur?

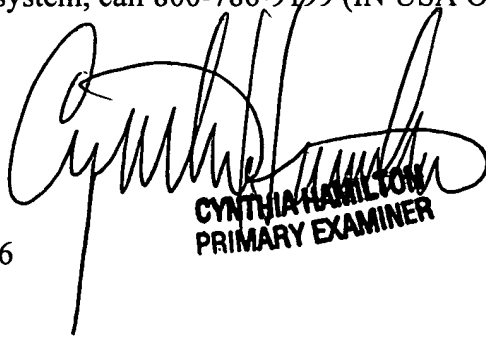
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-1331.

The examiner can normally be reached on Monday through Friday 9:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Cynthia H. Kelly can be reached on (571) 272-0729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1752

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



**CYNTHIA HAMILTON
PRIMARY EXAMINER**

June 24, 2006

Cynthia Hamilton
Primary Examiner
Art Unit 1752